

1. A device to detect various states such as deformation states, movements and loading states of a component (1), having a transmitter (2) and a receiver (3) that are arranged independently and at a distance from each other on at least one component, as well as an evaluation unit (4), characterized in that the transmitter (2) emits an electromagnetic wave or a focused acoustic wave or a focused particle beam towards the receiver (3).
2. The device according to Claim 1, characterized in that the transmitter (2) and the receiver (3) are each arranged in a holder (12, 12') on the component (1) in such a way that a deformation of the component (1) is equivalent to the position shift of the electromagnetic wave or of the light beam (5) on the receiver (3).
3. The device according to Claim 1 or 2, characterized in that there is at least one reflector or one reflective surface (6) within the beam path of the light beam.
4. The device according to one of the preceding claims, characterized in that the light beam (5) is reflected by the reflector or by the reflective surface (6) towards the receiver (3).
5. The device according to one of the preceding claims, characterized in that the reflector (6) is connected to the component via the holder (12).
6. The device according to one of the preceding claims, characterized in that the receiver (3) has a light-sensitive surface such as a PSD transducer or an image processing element.
7. The device according to one of the preceding claims, characterized in that the light-sensitive surface has a resolution of at least 1000 d.
8. The device according to one of the preceding claims, characterized in that the transmitter (2) emits at least one light beam (5) such as a laser beam.
9. The device according to one of the preceding claims, characterized in that the